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Rural Journal

# THE RURAL SCHOOL MESSENGER

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A SANITARY SURVEY  
OF THE RURAL SCHOOLS OF  
NORTHEAST MISSOURI

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Publisht by the  
Division of Rural Education, First District Normal School,  
Kirksville, Missouri.

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# THE RURAL SCHOOL MESSENGER

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## THE FACULTY IN RURAL EDUCATION

JOHN R. KIRK, President

MARK BURROWS, Editor

THURBA FIDLER

ROSAMOND ROOT

VOL. VII.

NOVEMBER, 1917

No. 2

Editorial .....	43
A Sanitary Survey of the Rural Schools of Northeast Missouri 45	
By WILLIS J. BRAY, Professor of Chemistry and Sanitation, First District Normal School, Kirksville, Missouri.	
Health and his Enemies .....	80
A health playlet in one scene. By DR. MURRAY STONE.	
The Bureau of Education Letter .....	85
Opportunities for history teachers. Contributed by DR. P. P. CLAXTON, U. S. Commissionery of Education.	
The Book Shelf .....	87
A discussion of books and things by the Editor.	



The new Packard truck which brings in the children to the rural school on the campus. It is also used to carry classes of the normal school on field trips, and by means of the convertible body is used for many other purposes. The enclosed body for bad weather is in process of construction.

## Editorial

AT last the work of the committee on the sanitary survey of the rural schools of Northeast Missouri is presented to our readers and others interested in better health conditions and a more inspiring program for the rural schools. As originally constituted, the committee was composed of Willis J. Bray, Chairman, Leslie B. Sipple, and Mark Burrows. The removal of Mr. Sipple to another field of work, and the rapidly increasing duties of the editor of this magazine, has thrown the burden of the preparation of the report on the shoulders of the Chairman. The pages that follow are evidence of how well he has done his work. As the committee originally planned, it was the intention to follow the findings with considerable attention as to apparatus, building plans and equipment, but the question of space and cost had to be considered. Considerable attention had previously been given to this phase of the subject in an early number of this magazine. This was the outgrowth of what was, so far as the writer knows, the first "survey" made in Missouri—an investigation carried on thru one of the writer's classes in School Economy in December 1914. Those interested may secure on request a copy of the Equipment Number of the RURAL SCHOOL MESSENGER, Vol. V, No. 2.

The study of the school conditions of Missouri was undertaken later by the Carnegie Foundation for the Advancement of Teaching. So far all that has appeared of this survey is an admirable presentation of the courses of study of normal schools in the United States, based upon a study of the Missouri normal schools. We understand other publications may be lookt for somewhat later. The latest effort to study the school situation in

**Co-operative Investigation and Study of the Rural Schools of Missouri**

Missouri is undertaken by a committee representing the State Teachers' Association. Hon. Uel W. Lamkin is Chairman of this committee.

Participating in this investigation and study is the State Department of Education, the State Teachers' Association, the state educational institutions, and the Missouri colleges. The Editor has the honor of representing this normal school in this study. We bespeak for this effort to better the rural school situation in Missouri the same hearty and sympathetic cooperation that has been accorded our committee in this Sanitary Survey. The work

of this later study will be of a wider scope. In addition to health and working conditions, other phases of school work will be studied,—such as the course of study and the necessity or desirability of changes in it; the social and economic conditions, and the other problems that are engrossing the attention of thoughtful students of country life and education. The rural schools of Missouri have made wonderful progress in the past few years. May we not hope from the attention they are receiving that they may soon take rank second to none in the Union?

Preparations have so far advanced that we can assure the teachers of the First District that a great program is assured for the coming session of the Rural Life Conference. Among those appearing on the program are Governor Gardner, State Superintendent Lamkin, Prof. P. G. Holden of corn fame, Dr. Kary C. Davis of Peabody College for Teachers, a representative from the U. S. Bureau of Education, Dean William Russell of the University of Iowa; Dr. Nan Sperry, a well known Chautauqua speaker; representatives of the Red Cross and the National Council of Defense, and others. The third rural life play, "The Rut," will be presented the opening night. In addition to the general meetings there will be numerous section meetings under the direction of various departments such as history, mathematics, English, sanitation, fine arts and manual arts, agriculture, etc. A daily round table demonstration and discussion of the particular problems of the one room rural school will be conducted by Miss Thurba Fidler. A corn contest is planned. A special picture exhibit, including specimens of work, the Elson collection of pictures for rural schools, and a special loan from the state of New York, which is leading in visual instruction,—this will be under the direction of Miss Grace Lyle. Other exhibits and demonstrations are being planned. Under the joint enrollment plan perfected by the Executive Committee of the State Teachers' Association, all who enroll here partake of the privileges and advantages of the State Association,—especially to be desired for young teachers, who should be encouraged to get into the thick of things and be a part of big movements. It is well for those who intend to be here to make arrangements in advance for rooms and board. Write to Mrs. Jo Walker Humphrey, Adviser of Women, who has arrangements made so that all may be accommodated.

**Seventh Annual  
Rural Life Conference,  
Nov 1, 2, 3, 1917**



## The Report of a Sanitary Survey of the Rural Schools of Northeast Missouri

THIS is an age of conservation. We have heard much of conservation of mineral resources, forests, birds, and the like, but it is seldom that we hear the warning note suggesting conservation of the most important of all of our national resources. Physical vitality fundamentally underlies our very existence as a nation. A nation can not be more vigorous and virile than its citizens. A morbid citizenship, a morbid nation. When our nearest neighbor was a mile away; when people lived the simple life; when life and its battles were less strenuous than they are today, the need for such care was not so manifest. There never has been a time in the history of the world when it took as much vital force to live and fill one's place in the world of affairs as today. Competition is keen. The every day life of the average American is a strenuous existence. The time when the school may content itself with instruction in the three R's merely, has past. When ninety-seven per cent of 11,012 typical applicants for enlistment in the U. S. Marine Corps were rejected because they were physically unfit, it is time that the public schools were making definite plans to meet the situation. A head full of brains, however cultured, polished, and adorned by present day schooling, will not, in itself, make a man physically fit for the duties and responsibilities of American citizenship. The schools must make some systematic effort to increase the vitality of the children or we shall soon find that physical inefficiency has seriously endangered our nation.

Dr. Thomas D. Wood, of Columbia University, one of the leading authorities in the United States on rural hygiene, says: "It is apparent that, within the last decade, the actual and vaunted physical superiority of country people and children over those living in cities has been reversed, and it is now confidently affirmed that, for the entire population, city dwellers are more healthy than those who dwell in rural districts; city life is more healthy than that of the country. It is just as true, however, and startlingly significant in view of the preceding statements, that most of our best human material for the cities and the nation as well must still come from the country. If rural America is still to be

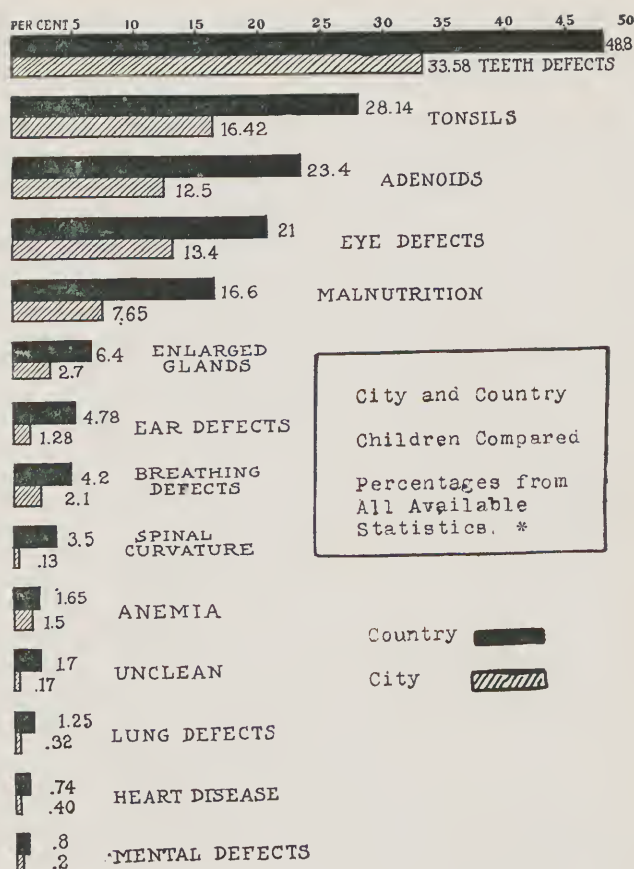


FIG. 1.—HEALTH DEFECTS OF SCHOOL CHILDREN. (Courtesy Dr. Thos. D. Wood and the American Medical Association.)

a satisfactory nursery for human life, it must be made healthful and attractive. It must furnish a generous fraction of the best of the population and it must provide conditions favorable for the cultivation of the best." These facts are not particularly pleasant for us to think of, but it is very important that we put aside all prejudices and face conditions fairly and squarely. While rural life and the rural school child have every natural advantage, yet it is an absolute fact that the rural school child is surrounded by conditions which place him under a handicap for life.

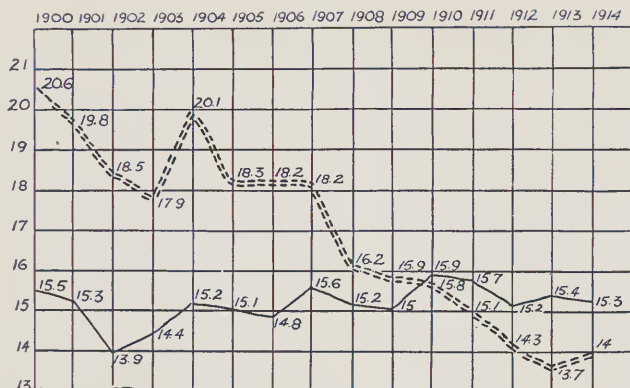


FIG. 2.—COMPARATIVE DEATH RATES URBAN AND RURAL—New York outside New York City. (Courtesy of Dr. Thos. D. Wood and the American Medical Association.)

Dr. Wood gives us more light on this point when he says: "The standards of living on the American farm, when tested by the accepted principles of sanitation and hygiene, are alarmingly defective. The rural school, from the standpoint of health and general fitness for its important use, is the worst type of building in the whole country, including not only all types of buildings used for human beings, but also those used for live stock and all domestic animals. Rural schools are, on the average, less adequate for their use than prisons, asylums, almshouses, stables, dairy barns, pig pens, chicken houses, and dog-kennels are for their uses." This constitutes a stinging indictment of the American rural school, but it is well substantiated by facts. It is just as true in Missouri as it is in New York. The Missouri farmer thinks more of his children as he does his stock, but he, too often, does not think as much about them. It is hoped that those who are interested in the betterment of rural conditions in this state will seriously consider the problems involved in the situation, and give themselves enthusiastically to a consideration of those means and measures which will tend to give the country boys and girls an equal opportunity in every respect with their city cousins.

The survey of which this is a report was undertaken by the State Normal School at Kirksville, Missouri, thru the Department of Chemistry and Sanitation. The original organization of the committee in charge of this study included, in addition to Willis

J. Bray, Professor of Chemistry, and Sanitation, Professors Mark Burrows and Leslie B. Sipple, of the Rural Education Department. Professor Sipple saw fit to accept a position in the Normal School at Kearney, Neb., and we were thus unfortunately early deprived of the further benefit of his advice and assistance. The rapidly increasing demands of his department and the work of the Rural School Messenger made it impossible for Professor Burrows to continue his connection with the committee work. The author wishes here to express his thanks to both of these men for valuable advice and assistance. The purpose of the work was to discover the actual conditions of the rural schools of northeast Missouri as regards hygienic and sanitary conditions. It was realized that much of our work heretofore has been more or less in the dark, because of a lack of such definite information. It is hoped that, by collecting this great mass of data, we might be thereby the better enabled to assist in securing such changes as will make health conditions in the rural schools more nearly ideal.

The data on which we base our conclusions were obtained by the tabulation of the answers to more than one hundred thousand questions. These answers were from representative rural schools in each of twenty-six counties in this section of Missouri. These questions called for simple statement of fact, and not, with one single exception, for an expression of opinion. The answers obtained can be relied upon as an exact statement of facts in almost every case. The questions covered the following scope: school grounds; buildings; health of pupils; water supply; disposal of dust and dirt; heating and ventilation; and disposal of sewage. The data, when received, were tabulated by counties, and the totals under each item obtained by adding corresponding items from all the counties.

In this connection we desire to express our thanks and indebtedness to the county superintendents, who, without exception, gave us the benefit of their kindly cooperation and encouragement, and to the teachers who so faithfully filled out the blanks mailed them by the committee.

### **School Grounds**

The school grounds were found to be far from ideal. 8.6 per cent had an area of less than one-fourth of an acre. 15.3 per cent had from one-fourth to one-half acre. 14.8 per cent had



from one-half to three-fourths of an acre. 27.4 per cent had from three-fourths to one acre. 16.2 per cent had one to two acres. 2.7 had from 2 to 3 acres, while 1.7 per cent had more than 3 acres. 89.3 per cent of the schools made no provision for garden or agriculture work, and hence had no grounds set aside for that purpose. 64 per cent of the school grounds were reported to be level, while 36 per cent were rough or hilly. 87.7 per cent were well drained, while 12.3 per cent were not well drained. It is thus seen that the great majority of the schools have all that could be desired in these respects except that there is generally an insufficient area for adequate play grounds and for school garden purposes. There is nothing more fundamentally important in the planning of school premises than adequate play grounds, since there is nothing more fundamentally important in the life of the child than systematic, organized play. The school board that makes inadequate provision for playgrounds is depriving the children of one of the greatest bulwarks against physical inefficiency and disease. It has been well said that the good player is seldom socially or physically inefficient, and, for that reason, if for none other, school boards should provide large, separate playgrounds for both the younger children and the older ones.

13.6 per cent of the school grounds are entirely devoid of trees, while not a few were found to have so many trees that systematic play would be an impossibility.

77.4 per cent of the schools were found to have no playground equipment whatever, while 5.64 per cent had equipment for baseball. 4.62 per cent had equipment for volley ball. 8.68 per cent had equipment for basketball. In this day of baseball, volley ball, basketball, hand ball, tennis, the out-of-doors gymnasium, etc., no school can be considered to be excusable for failure to provide some means for systematic exercise on the part of the children. In our failure to appreciate the fact that the child without proper exercise is a child with poor lymphatic circulation, poor blood and blood circulation, poorly developed muscular system, and with nervous instability, we fail in one of the most important duties of the school, namely to pave the way for strong and healthy manhood and womanhood. We must realize that running at random, playing marbles, and the like do not constitute systematic exercise.

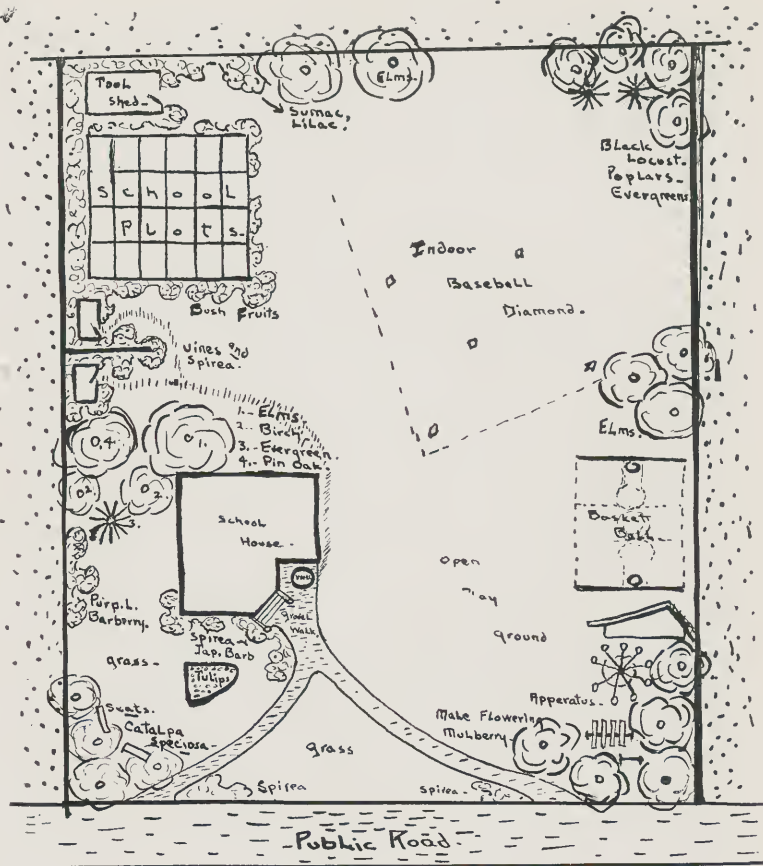


FIG. 3.—A WELL PLANNED SCHOOL YARD. This might well be imitated by many Missouri school boards.

26 per cent of the schools have the same time for work and play for all children regardless of age. This means that more than one-fourth of our schools are committing a most serious offense against the younger children by holding them to a routine of sedentary work which is certain to undermine health in the end. Nature never intended that the young child should remain quiet and inactive for an hour and a half at a time in study, and, like all other violations of Nature's laws, it brings its certain pun-

ishment sooner or later. Even the rural school, with its crowded daily program should plan to give the younger children more frequent opportunity for play and recreation than the older children have.

### School Buildings and School Rooms

96.7 per cent of the buildings were made of wood, the remainder being made of stone, brick or cement. 11.8 per cent of the buildings were less than five years old. 10.9 per cent were from five to ten years old. 11.7 per cent were from ten to fifteen. 16.2 per cent were from fifteen to twenty. 20.2 were from twenty to thirty. 15.7 per cent were from thirty to forty. 9.2 per cent were from forty to fifty. 4.3 per cent were more than 50 years old. It is thus seen that half of our school houses are more than twenty years old, and, as such are at least twenty years behind the best modern thought and knowledge in school house construction. Our children are entitled to the best there is to be had, even if it requires sacrifices to get it.

It was found that 46 per cent of the school rooms were smaller than 20 feet by 32 feet. 17.9 per cent were approximately that size; while 36.4 per cent were in excess of that size. 2.61 per cent of the school rooms had less than ten square feet of floor space per pupil. 11.25 per cent had from ten to fifteen square feet per pupil. 13.7 per cent had from fifteen to eighteen square feet per pupil. 10.3 per cent had approximately twenty square feet per pupil. 62 per cent had more than 21. This means that about forty per cent of the school rooms are entirely too crowded for health and comfort.

2.7 per cent of the school rooms had less than 100 cubic feet of air space per pupil; 11.1 per cent, from 100 to 150 cu. ft., 17.8 per cent from 150 to 200; 22.1 per cent from 200 to 250 cu. ft.,



FIG. 4. "Still sits the school house by the road,  
A ragged beggar, sunning."

This one breaks every law of sanitation, efficiency, and beauty. By way of contrast look at Fig. 5. Many of that type are now found in Missouri.

46.3 per cent had more than 250 cu. ft. per pupil. It is thus seen that nearly one-third of our school rooms fall short of the safe minimum of 180 cubic feet of air space per pupil. Insufficient air space in the school room means foul air for the children to breathe, and that means lowered vitality for the children. Children are thus made much more susceptible to disease.

98 per cent of the schools have cross lights. 80.6 per cent of the schools have lights coming from two sides. 13.74 per cent have lights coming from three sides. 3.07 per cent have light coming from four sides of the room. .75 per cent of the schools have exclusively north light. Light comes from the left in 2.95 per cent of the rooms; from the right, .94 per cent; from the front, .8 per cent; from the rear, .9 per cent; left and right, 72.3 per cent; left and rear, 4.7 per cent; left, right and rear, 10.5; left, right and front, 3.9 per cent. Our school houses are so constructed as to throw the greatest strain possible on the eyes of the pupils. Instead of safeguarding the children's eyes by admitting light from the left side only, we permit cross lights to injure their eyesight and handicap them for life.



FIG. 5.—This building has an abundance of light from one side. It is properly heated and ventilated. It has sanitary indoor toilets. It costs a little more, but it is not too good for Missouri boys and girls.

82.6 per cent of the school rooms have a window glass area of less than one-fifth of the floor space. 8.3 per cent have a window glass area approximately one-fifth of the floor space. 9.1 per cent have a glass area of more than one-fifth of the floor space.

A properly lighted school room should have a window glass area equal, at least, to one-fifth of the floor space. That means that more than 80 per cent of our schoolrooms are so improperly lighted that they are a distinct and constant menace to the eyesight of the children. 9.4 per cent of the windows have no window shades. Of those that have shades, 91.6 per cent are dark green in color. 29.2 per cent of the school rooms have white walls; 35.9 per cent were listed as light in color; 18.5 per cent



were listed as dark in color; while 4.7 per cent of them were listed as dirty. Dark walls can absorb much of the light that even adequate window glass area can transmit.

The school room floor should be double, and should be smooth and even to facilitate the proper care of dust. 44.7 per cent of the school houses were found to have floors of single thickness, the remainder being doubled. Many of the floors were so rough, uneven and full of cracks that the proper care of the school room dust and dirt is an impossibility.

The blackboard in the school room is a necessary part of the equipment. Many schools make the mistake of having too small an area of blackboard, improperly placed, and made of unsatisfactory materials. 8.7 per cent of the schools have less than 50 square feet of blackboard. 50 per cent have from 50 to 100 square feet, while 41.4 per cent have more than 100 square feet. 43.3 per cent of the schools have blackboards in the front of the school room only. This is a thing to be commended. It is likely to be conducive to better posture on the part of the children in the seats to have the board in front part of the room. 28.5 per cent of the blackboards were reported as being  $2\frac{1}{2}$  feet from the bottom of the board to the floor; 57.7 per cent were  $2\frac{1}{2}$  to 3 feet; and 13.8 per cent were more than 3 feet from the floor. 36.8 per cent of the blackboards were made of slate; 43.2 per cent were made of boards painted black, while the others were of wall board or some other such material. Slate is unquestionably the most satisfactory material for blackboards. Undoubtedly painted boards are likely to be found most unsatisfactory from every standpoint. 30 per cent of the black boards were reported as being washed at least once a week. 70 per cent of them were reported as being washed much less frequently, or not at all. A blackboard, to be sanitary must be washed at least once a week, and oftener if possible.

13.3 per cent of the school rooms were found to be provided with single desks and seats for the pupils, while 12.2 per cent of the schools were reported to have adjustable desks. This means that the great majority of the school children are required to sit in seats and use desks that can not be adjusted to their individual requirements. Thousands of cases of spinal curvature, defective eyesight and other deplorable physical imperfections have resulted

from this practice. Both the seat and the desk should be capable of being adjusted to the requirements of the individual child. The practice of having two pupils seated at one desk is obsolete and should be abandoned as rapidly as possible. 9.4 per cent of the schools were reported to have an insufficient number of desks. 6 per cent of the schools have their desks not fastened to the floor. It is seen that 94 per cent of the schools have not yet appreciated the importance of being able to transform the school room so as to make it suitable for games, drills, folk dances, community gatherings and the like. With movable seats and desks the room may be quickly cleared for school entertainments, or the seating rearranged for the purposes of various community meetings. 66.1 per cent of the desks had not been new or revarnished within the last five years. 93.3 per cent of the schools provide no footstools for the use of those who must sit in seats that are too high. 43 per cent of the schools have from one to ten pupils using desks and seats that do not fit, while 8.1 per cent have more than ten pupils using non-fitting seats and desks. A non-fitting seat or desk usually means a nervous, restless and, ultimately, diseased child.

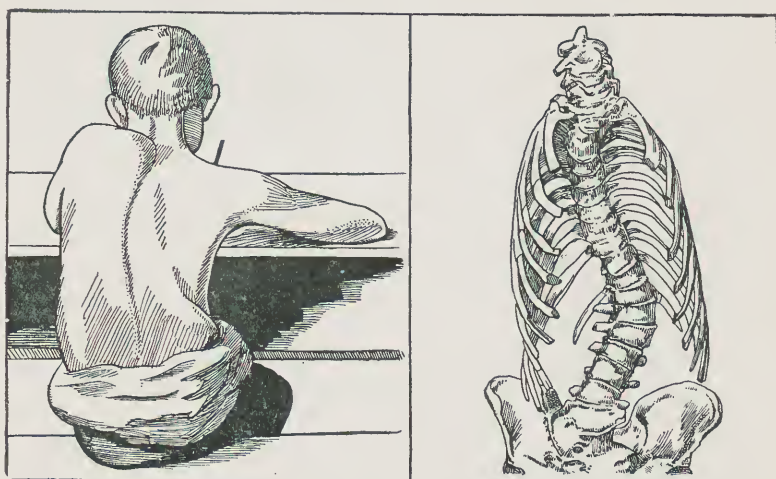


FIG. 6.—IMPROPER SEATING CAUSES SPINAL CURVATURE; THE LATTER UNDERMINES HEALTH. (Courtesy of the Macmillan Co. From the O'Shea-Kellogg Health-Hygienic Series of Physiologies.)

72.1 per cent of the schools have no cloak rooms. 19.4 per cent have only one cloak room. 8.5 per cent have two. It is not best for the wraps and lunches to have to be in the school room, and the school board that plans for less than two cloak rooms is planning unwisely. These cloak rooms should be so arranged that children may pass in at one door and out at another so as to avoid congestion in the doorway. By all means the boys and the girls should use separate cloak rooms.

### Health Conditions of Children

Dr. Taliaferro Clark, of the United States Public Health Service, says that "Rejections of applicants for enlistment in the Marine Corps because of physical unfitness were in direct relation to the number of years spent in school." The same

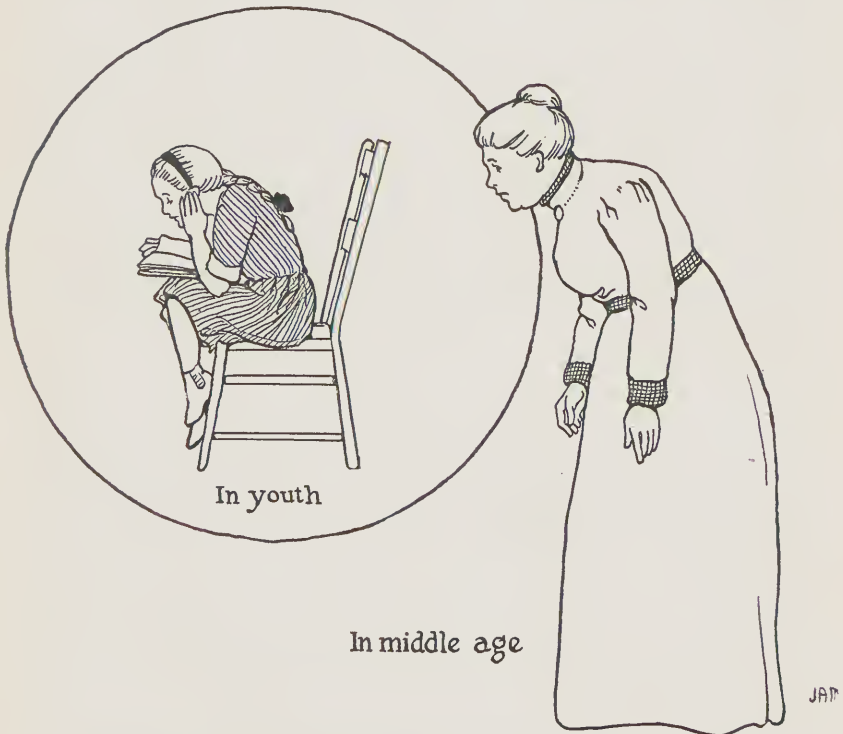


FIG. 7—THIS IS WHAT NON-ADJUSTABLE DESKS MAY DO FOR A CHILD. (Courtesy of the Macmillan Co. From the O'Shea-Kellogg Health-Hygienic Series of Physiologies.)

authority goes on to say that "The greatest number of rejections for enlistment on account of physical defects were due to abnormalities of physical development, defective vision and hearing, heart disease, faulty teeth, and postural defects. These defects are in large measure preventable, or at least controllable, depending upon their prompt recognition during childhood, the period when so many of them have their origin." Since so much depends upon the early recognition of initial deviations from the normal conditions, it is of the utmost importance that the defect be recognized during childhood, while preventive measures may prove effective. In a great majority of cases we, ignorantly or wilfully, violate the laws of nature in the care of the child, and, when Nature's punishment for the offended law threatens the life of the child, we call in the faithful family physician, who does his best to assuage the severity of Nature's punishment. The laws of this state make no provision, as yet, for any form of health supervision of school children. As long as this condition exists, we must look to the teacher to discover those beginnings of physical defects which will, if not corrected, produce disease, and often premature death. Missouri is unfortunately backward in this respect, as compared with other states. Most other states of the standing of this one, and many states not having as much aggregate wealth as ours, have made provision by law for a health supervisor of schools, the same as for a supervisor for the intellectual development of the children. We must demand that the children of this state be given just as good a chance in the world as the children of any other state. We must demand the passage of laws that will give us the much needed health inspection in our schools. This will probably come only with a new constitution.

It was found that 1.8 per cent of the schools reported some form of medical inspection. That means that, in 98.2 per cent of the schools, no systematic preventive measures are taken to safeguard the health of children. We lose sight of the old adage, "An ounce of prevention is better than a pound of cure." We may believe in the truth of the saying, but we do not act like it. We act as if the adage ran "Omit the ounce of prevention, even if you have to give a pound of cure."

#### **Dental Inspection**

3.5 per cent of the schools reported that they have some form



of dental inspection. Dr. William Osler expressed the belief that more physical degeneracy can be traced to neglect of teeth than to the abuse of alcohol. Dr. Terman says that "Of our twenty million school children not over one or two million are free from dental defects or disorders of some kind, and, of the remainder of the population, only a negligible minority." About one-fifth of all of the teeth of our school children are diseased. Terman says that a child with diseased teeth is likely to be sallow, thin and nervous. A carious or decaying tooth is a perfect incubator for the growth of bacteria. There they grow at an alarming rate, and are carried into the alimentary tract to poison the body, or produce disease. It is no wonder that there is an intimate relation between diseased teeth and malnutrition, anemia, tuberculosis and nervous disorders. The average teacher, like the average parent, has little conception of the character of the child's teeth. No attention is paid to them until they begin to ache, and then much damage has already been done to the health of the child, and, often the child has to lose the tooth much to his detriment. Every child is entitled to a good set of teeth, and, by the aid of watchful teachers and cooperating parents, can have it. It is the fault of the school, when a child is placed under the handicap of a bad set of teeth, which may cause disease and death. It should be a part of the business of the teacher to examine for the grosser dental defects, and it should be the delight of the parent to cooperate with the teacher in securing the aid of a dentist.

### **Adenoids**

Only 1.7 per cent of the schools make any effort to examine the children for adenoids or have that done, while 491 cases of adenoids were reported. Terman says that "The ultimate injury far exceeds the immediate. A given adenoid child may be able to keep out of the sick bed and to make a fairly creditable showing in school, but may, nevertheless, fail on account of this defect to develop normal vitality. Many years after the close of school life such a child is likely to prove an easy prey for infectious diseases and may pay the penalty of neglect by a premature death." Adenoids are almost certain to usher in a number of troubles, among which are tuberculosis, anemia, nervous instability, mental dullness, and a large number of other diseases.

### **Eye Defects**

19.4 per cent of the schools reported that they had made provision for the testing of the eyesight of the children. There were 771 cases of defective vision reported. It is likely that only the serious cases were observed and reported. Probably from ten to thirty per cent of the school population are suffering from defects of vision of such serious character as to really need glasses. Many a child has been driven from school, and deprived of the benefit of an education, simply because the teacher did not know that the child had defective vision. Many a child has been classed as a dullard, who, in fact, had a bright mind, but did not get a square deal in school. It is the business of the teacher to recognize, especially, the more severe forms of eye defects, and recommend treatment to the parents. When anything is wrong with the eyes, parents should consult a competent oculist, that is, a physician who has specialized in diseases of the eye, rather than risk the very delicate mechanism of vision in the hands of an optician. Very satisfactory charts for testing vision may be purchased of F. A. Hardy and Co., Wasbah Ave., Chicago. These are the Allport charts. In testing the eyes of very young children the McCallie cards are very convenient. They may be obtained from Edwin Fitzgeorge, Agent, Trenton, N. J. The Snelling vision test charts are also good. Since accurate tests have shown that an average school in Missouri may receive only about 18 per cent as much light in December as in June, and only about 27 per cent as much at 4:30 p. m. as at noon, it is important that teachers give the pupils every advantage that they may not be forced to suffer the serious inconvenience and danger that is almost certain to result if the eyes are not properly tested and, when necessary, glasses fitted.

### **Hearing**

It was found that, in 10.7 per cent of the schools, the pupils were tested for defective hearing, about half of whom used the watch method. 239 cases of defective hearing were reported. It is reasonably certain that from 10 to 20 per cent of the school children do not hear normally. It is equally certain that, in a great majority of these cases, the teachers are not aware that the children are thus defective, and accordingly misjudge them.

Teachers should be watchful for the causes of defective hearing. There are three main causes that should be mentioned here: (1) diseased condition of the nose and throat, especially adenoids and diseased tonsils; (2) infectious diseases; and (3) stoppage of the outer canal. Many a child is, figuratively, living on the crater of a volcano by having a case of discharging ear. Teachers should be very watchful on this point, and, should they discover a case, the parents should be requested to get prompt medical attention.

The whisper test is probably the most satisfactory means available to the teacher for detecting defective hearing. The room should be 25 or 30 feet long. At this distance a rather low whisper should be easily audible if the child has normal hearing. The child to be tested should be placed in a chair at one end of the room with a clean cotton plug in one ear. The teacher should stand at the other end of the room and pronounce words or numbers in a uniform whisper. The acuity of hearing is determined by the per centage of the whispered words heard correctly. If, for example, a majority of the children hear 10 out of 20 words or numerals whispered correctly, that is taken as the standard for normality. The ear, then, that hears only 5 out of twenty correctly is recorded as half normal. There are about 75,000 cases of deafness in this country about half of which could have been prevented by the proper health supervision and examination of school children.

### **Malnutrition**

There were three hundred and eleven cases of malnutrition reported. This defect is a case in which the body is partially starved for the lack of proper nourishment. This is not necessarily a sign that the child does not get enuf to eat, but that that he is not assimilating a sufficient quantity of food. It is not what the child eats that nourishes him, but what he can digest and assimilate of what he eats. Much of the malnutrition found in schools today comes from homes that are classed as well-to-do. The trouble with so many children is that they do not get a properly balanced ration properly prepared. Any farmer who owns a high priced, thorobred cow, will see that she gets a properly balanced ration of nourishing food regularly; but the same farmer, not infrequently, is grossly indifferent to the sort of ration his

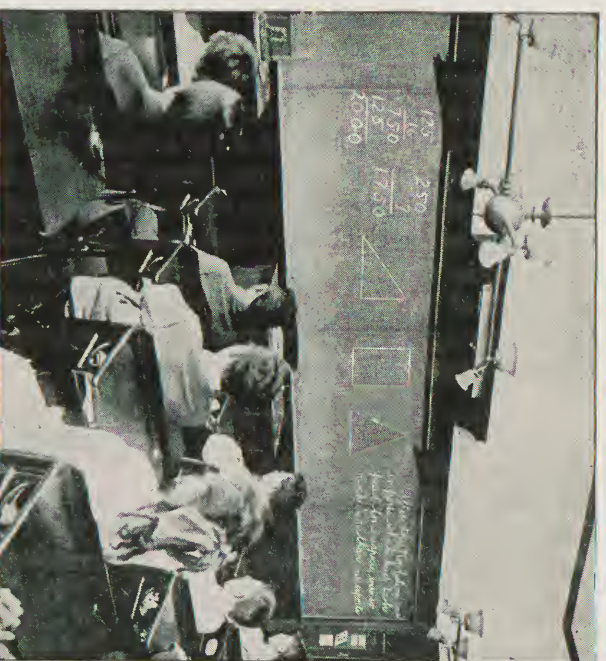
own child gets. Many think that, when they have provided grain, vegetables, flour, sugar, etc., they have done their part. An actual study of about 3,000 school children in Minnesota small towns and villages, reveals the fact that 65 per cent of the children had breakfast with no protein, 85 per cent with no fruit, and 60 per cent without either fruit or protein food.

The assimilation of food, and the consequent avoidance of disease, depends not only on the food, but also on the bodily activity. Physical exercise exerts a very important influence on the digestion and assimilation of food. Tissues can starve for the want of oxygen in the out-of-doors if the bodily functions are not stimulated by exercise. In like manner, a child who hugs his books for six or more hours a day may suffer malnutrition in the midst of plenty of food. Tuberculosis is the almost inevitable follower of persistent cases of malnutrition. It is estimated that from ten to fifteen per cent of all school children are ill-nourished. Our negligence in this respect is bound to be productive of serious results in the end. Many schools attempt to solve the problem by serving the noon-day lunch, prepared by the teachers and the older girls, for which a nominal charge is made. This food is scientifically prepared and well selected. This is probably the best method of meeting the problem, where it can be installed. Some schools attempt to meet the difficulty by holding short courses in home economics in the district every year under the direction of lecturers from the University of Missouri or the Normal School. Much good has been accomplished in this way. In addition to care for the selection and preparation of food, the teacher should also strongly urge upon pupils and parents that the ill-nourished child be given regular and systematic exercise on the play ground, plenty of good refreshing sleep in bed rooms with the windows open. There is no reason why any child should be chronically poorly nourished, and especially a country boy or girl, if the parents will see that all children get the benefit of these three health-giving principles.

### **Speech Defects**

Six hundred forty-six cases of speech defects were reported, and, it may be safely taken here, as in all of the other cases of defects reported in this study, that only the more obvious cases





AS SEEN BY THE NEAR-SIGHTED OR ASTIGMATIC PUPIL.

FIG. 8.—WHY SOME CHILDREN DO POOR WORK IN SCHOOL. (From the National Committee for the Prevention of Blindness, Courtesy the Literary Digest, New York.)

AS SEEN BY THE CHILD WITH CORRECT VISION OR PROPERLY-FITTED GLASSES

were known to the teacher, and that a large number of cases were present but in a mild or incipient form so that the teacher, with her limited experience, was unable to notice it. A stuttering child is a handicapt child. He does not have an equal chance with normal children. Dr. Bresgen is of the opinion that obstructions of the nasal passage and pharynx are at the bottom of nearly all speech defects. Hence teachers should be especially watchful for adenoids, enlarged tonsils, or any other obstruction of the air passages. The stutterer is often misunderstood, and abused by the teacher and parent alike, and, instead of the sympathy and help that he should receive, he gets scoldings and harsh treatment. Such treatment always makes speech defects worse.

In 27.9 per cent of the schools the seating arrangement of pupils is planned to favor those who have physical defects. That means that more than two-thirds of our rural schools let the poor unfortunate defective child look out for himself, and, since he is nearly always timid, and self-conscious, he is soon driven out of school by the fact that he does not get a square deal. 78 per cent of the teachers give no corrective exercises for any kind of defects. Children may suffer from serious spinal curvature, as 173 pupils, were so reported, and the teacher do nothing to aid the child or correct the difficulty. The child may stutter pitifully, but more than two-thirds of the teachers give no special corrective exercises to help the poor unfortunate. The child may suffer from chorea (St. Vitus dance), as 60 pupils were reported, but he would get no sympathetic special care, special aid or advice. The poor teacher is so busy giving instruction in the, three R's that she does not have time (or should we say take time?) to give that instruction and attention to the child which will make him or her physically fit for the duties of citizenship in a day when the demands on the physical side of one's being are unprecedented. "Spinal curvature is not only a product of low vitality, but does harm by permanently fixing vitality at a low standard."

### **Water Supply**

Forty-two per cent of the schools were reported as using shallow living wells as a source of water supply. Fifty per cent were using cisterns, and three per cent were using springs as a source of water supply. Thirty-seven and four-tenths per cent

of these wells and cisterns had board tops, while 16.6 per cent of them were so walled up that mice, rats and other animals could make their way thru the wall into the well. Contamination by surface drainage was reported possible in 22.4 per cent of the schools, tho it is certain that this number is much too small. Many teachers did not realize the facts shown in Fig. 9.

The water supply is situated on the school grounds in 77 per cent of the cases. 59.7 per cent of the schools have their water supply within ten feet of the school house; 21 per cent from ten to



FIG. 9.—POLLUTION OF WELL WATER. This will not happen if the privy is located at east 200 feet from the well on the lower ground.

NOTE—50 per cent of the wells in Missouri's rural schools are located within 100 feet of unsanitary outhouses. (Courtesy of the North Carolina Board of Health.)

fifty feet from the house; 17.7 per cent between 50 and 500 feet of the house. 48 per cent of the teachers reported that they considered their water supply probably impure, and unsuitable for drinking purposes. 25 per cent of the teachers reported that their schools used drinking fountains. It is known that, in many of these cases, the drinking fountain was merely a keg or a jar with a faucet for drawing water into a cup. 64.5 per cent of the schools were reported as using individual drinking cups, tho, in many cases these cups were so improperly cared for that they were little, if any, better than the common drinking cup. The common drinking cup is still in use in 35.5 per cent of the schools. Special

attention should be directed to Fig. 11 in connection with the use of the drinking cup. This is not an exaggeration of the dangers attending the use of the common drinking cup or the improperly cared-for individual cup. The cisterns were found to be most

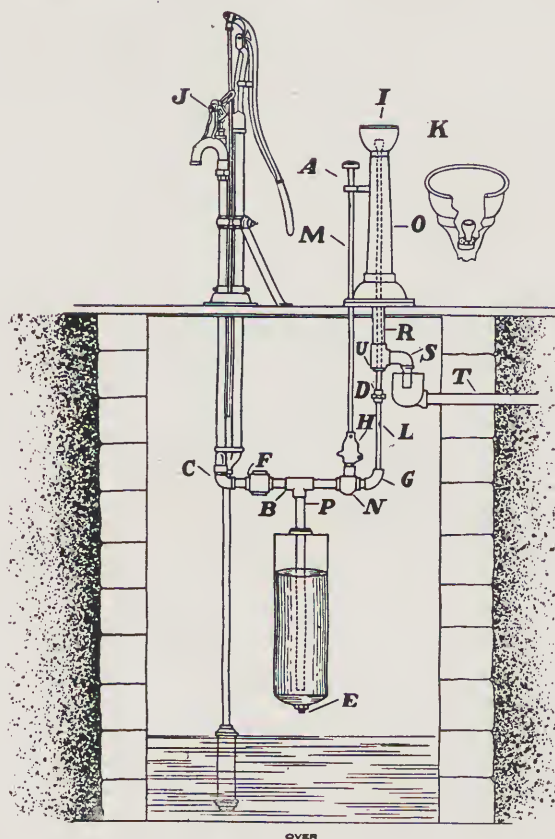


FIG. 10—A CONVENIENT AND SANITARY DRINKING FOUNTAIN. (Courtesy the Linn-McCabe Co., Casey, Ill.)

unsanitary. 85.7 per cent of them had no filters provided. This means that the water, carrying the dust, excreta of birds, remains of birdnests, etc., ran down into the cisterns carrying much of impurity of more or less harmful character. Nothing intervenes to filter out any of this mass of material that contaminates and endangers the water supply. The water, bearing its load of bacteria,



goes into the cistern where the germs multiply indefinitely, feeding on the organic matter in the water, and live to poison the innocent child.

Many a person has filled a premature grave because of drinking impure water who did not die of typhoid fever or Asiatic cholera. We are poisoning our school children probably unwittingly, by forcing them to drink water that is unfit for use. Too often we think that, because a well or cistern furnishes water

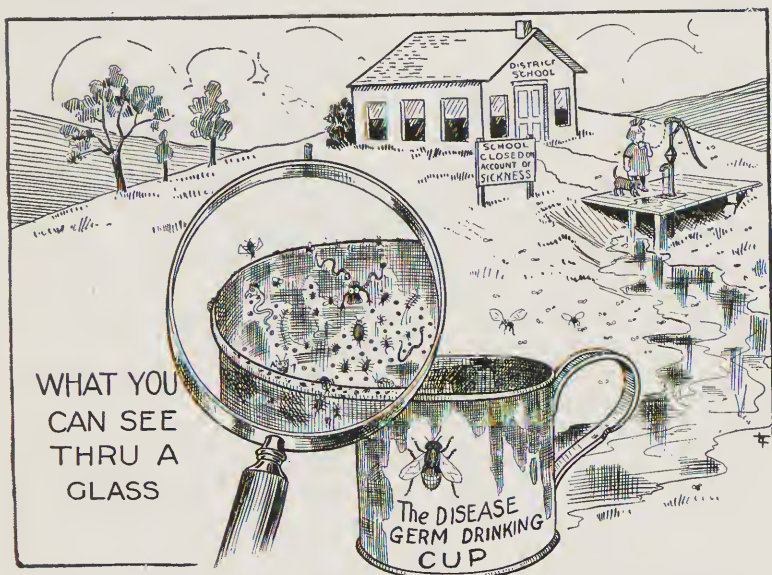


FIG. 11.—THE STORY OF THE UNSANITARY DRINKING CUP. (Courtesy the Linn-McCabe Co., Casey, Ill.

that was good enuf for us in our childhood it is good enuf for our children. Many wells that were perfectly safe twenty years ago, are very much polluted now. Fig. 12. shows a section of a very satisfactory cistern filter, that may be installed by any one skilled in the handling of concrete and at small cost. The one thing to be remembered about all such installations is that they must be cleaned out and refilled at rather infrequent intervals in order that the filter may not become a contaminator. Cistern water, if properly protected, is a very good drinking water, but it is quite certain that our rural schools are not taking the pains to make



theirs safe. A child should not be permitted to drink such water, even if it should happen not to cause any specific disease, as it would be very likely to lower the vital resistance of the child's body by filling him with organic poisonous matter, thus inviting, if not actually causing, disease. We can not afford to be parsimonious in matters of this kind. It is a specific case of "An ounce of prevention is better than a pound of cure."

Special attention should be called, in this connection, to the matter of the top or covering of the well or cistern. It was the

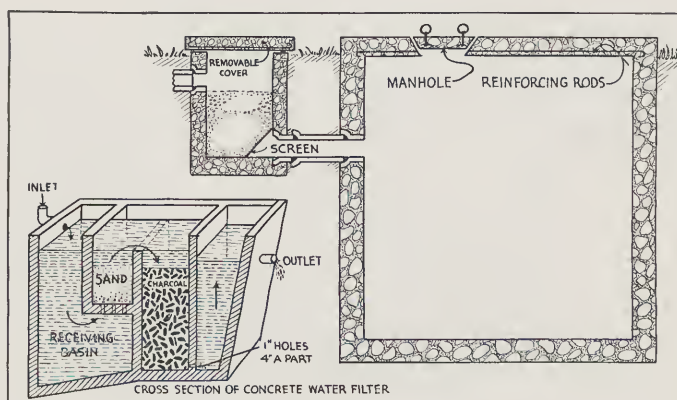


FIG. 12.—A GOOD CISTERN FILTER. (Courtesy Lehigh Portland Cement Co., Allentown, Pa.)

privilege of one of the authors to visit a well-equipped rural school in this section of Missouri recently. It was an approved school, with all of the globes, maps, library, heating plant, etc., that goes with such a school. The well top was made of boards and those boards were so warped that great cracks were left between the boards. Thru these cracks the water falling on the well top, washed the manure, brought by the feet of the children from a nearby stable, into the well. It would have shocked the members of that school board to have had it pointed out to them just what they were allowing their children to drink. In another county in this section of this state, when the teacher complained that the water did not taste or smell good, an investigation revealed a most astonishing condition. A snake had crept into the crack between

the warped boards of the well top and there died. The water, falling on the well top, ran down over the body of that animal, and on into the well. And those children had been drinking that water. Another case in which the well water was analyzed in the laboratories of this school, the well was found, on being cleaned out, to have the bodies of two hundred snakes in it. These had gained access to the well thru the holes in the wall. These rather repulsive illustrations are given to show the reader that unusual care should be exercised in the construction of the well in order to avoid a repetition of these, and many other similar instances of contamination of water supplies. These cases are

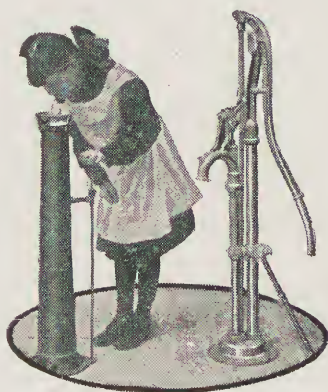


FIG. 13.—DOES YOUR CHILD HAVE THIS ADVANTAGE? (Linn-McCabe Co.)

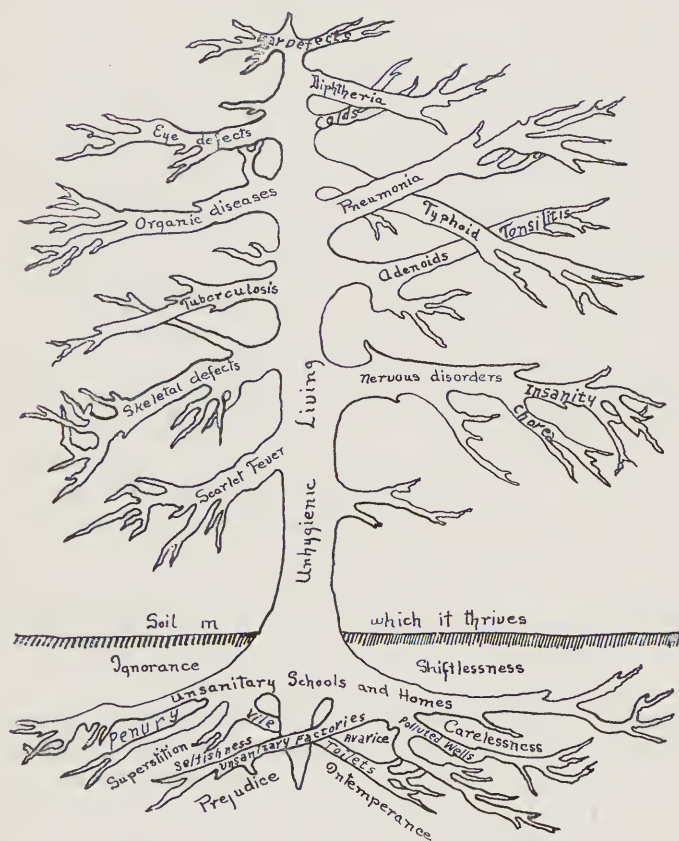
taken from actual observation in the rural schools of northeast Missouri. The teacher or patron who would hesitate or refuse to consider such problems as these is unworthy of the responsibilities of the care and training of children. How much better it would be if all of those schools and school boards had gone to the expense and trouble of fitting concrete tops and good walls of brick or stone and concrete!

A shallow well is a most uncertain source of water supply especially as to quality. The 42 per cent of the schools dependent on shallow wells as a source of water supply, should take special precaution to avoid gross pollution of the water which their children and teachers must drink. We, frequently, have the idea that water, no matter how foul, will purify itself

in flowing thru the soil. On this basis we have located unsanitary toilets within a few feet of the source of water supplies. It was found that fifty per cent of the rural schools in northeast Missouri have their wells located within one hundred feet of open, unsanitary outhouses. In an experiment a large number of bacteria were placed six feet below the surface just in the top of the underground stream of water. Within a week they were found in considerable numbers in the water of the soil one hundred feet distant. This shows us the danger of our present practice. No well can be considered safe from the danger of pollution from an unsanitary toilet within one hundred feet of the well. The pollution is almost sure to find its way to the ground water stream and then into the well in due time. Fig. 9. shows how well water may become polluted by drainage from privies, barnyards, etc. Investigations by Kellermann and Whitaker, in cooperation with the Minnesota State Board of Health, revealed the fact that, out of 79 typical and carefully selected water supplies in Minnesota, 20 were good and 59 were polluted. Of the polluted wells, 11 were so located that even extreme care could not make them safe; 10 were poorly located, but were so situated that proper protection from surface drainage and infiltration would make them safe; 25 were bad only because of poor surface protection, and could easily be made safe. Practically all of the surface supplies investigated were more or less polluted. During the investigation, 23 of the farms examined showed records of typhoid fever. Dr. Shutt of the Canada Experimental Farms at Ottawa, reviewing his work since 1887, states that of the farm water supplies examined 30 per cent may be classified as safe and wholesome, 25 per cent as suspicious and probably contaminated, 36 per cent as seriously polluted, and 9 per cent as being unsuitable for use because of being too strong with mineral matter. We may be sure that the condition of Missouri school wells are no better than the ones studied by these investigators.

The old argument that the well was good enuf for our fathers and grandfathers, and is therefore good enuf for us, is utterly ineffective in this day. The man or woman who attempts to justify his or her own carelessness in a matter of this sort in this way is an enemy of society, because he or she is working against the best interests of society. Such an attitude is prejudicial to

the public health. Most of the shallow wells used by Missouri schools could be made reasonably safe by locating them a proper distance from possible sources of contamination, and seeing that



## The Tree of Death.

FIG. 14.—ARE YOU CULTIVATING THIS TREE IN YOUR SCHOOL?

the wall is water-tight for a distance of six feet from the top, and the soil banked up around the well. These, together with a good concrete top, will go far toward making the well water safe.

### Heating of Schoolrooms

In this climate the heating of the schoolroom is a most important item from the standpoint of the health of pupils and teacher. 64.1 per cent of the schools still use the common stove method of heating, while 24.7 per cent use the jacketed stove. The relatively small total of 11.2 per cent use a furnace. Two thirds of the schoolrooms have the stove in the middle of the room. This makes even heating of the room an impossibility. Some children are, necessarily, overheated while others are too cool. Colds, pneumonia and other forms of disease are inevitable under such circumstances. If the common stove must be used, it should, by all means, be jacketed. It is well worth the investment to install one of the modern heating and ventilating systems, as a few dollars thus invested will bring fortunes in return in the form of sturdy, healthy children. School boards should make every sacrifice to secure the very best modern conveniences to facilitate the proper health care of the pupils. More people die of tuberculosis contracted before the age of twelve than die of any other cause, and our careless methods of heating and ventilating schoolrooms are far from being the least important of the various causative factors. A famous German physician has estimated on the basis of extensive research and investigation, that 95 per cent of the twelve year old children are infected with tuberculosis in some form. The school is largely responsible for this condition, which is just as certainly true in America as it is in Germany, where almost every school has its physician and nurse.

Less than one-third of the schoolroom windows can be lowered from the top. All but 13.7 per cent are solely dependent upon the open windows for ventilation. It is known that the air in the average schoolroom is very foul most of the time. If the fresh air treatment is effective in curing tuberculosis, why should we not use the same methods as preventive measures against such diseases. What the children, as well as adults, need most is an abundance of fresh air in the room day and night. Dr. Woods Hutchinson says that "The only draught that ever hurts a person is the draught that he does not get," but, in this it is understood that he means a draught that covers the entire body properly protected against sudden changes and excess evaporation. The average lungs contain about 3500 cubic centimeters of air, only



about 500 cubic centimeters of which are expelled in the ordinary processes of respiration. Each respiration expels one-seventh of the air from the lungs. Unless this volume is of the purest air, properly moistened, it will be seen that impurities from the lungs will be very slowly eliminated, and the body correspondingly poisoned. 79 per cent of the schoolrooms do not have a thermometer, so that they can not tell when the room is properly warmed. 60.6 per cent of the schools plan to have a change of air once every hour and a half. All the others either have the windows open less frequently, at irregular intervals, or not at all. Some school boards are so parsimonious as to nail the windows down in order to save fuel. Such foolish, misguided men are, fortunately, more and more infrequently met within the Missouri school systems. Until such time as we are able to adopt the open air school, which is probably the most nearly ideal system, we should bend every energy to secure good fresh air, properly warmed, properly humidified and properly distributed in the room, together with a good foul air outlet. Such a system properly installed and operated will go far toward improving health conditions in the country.

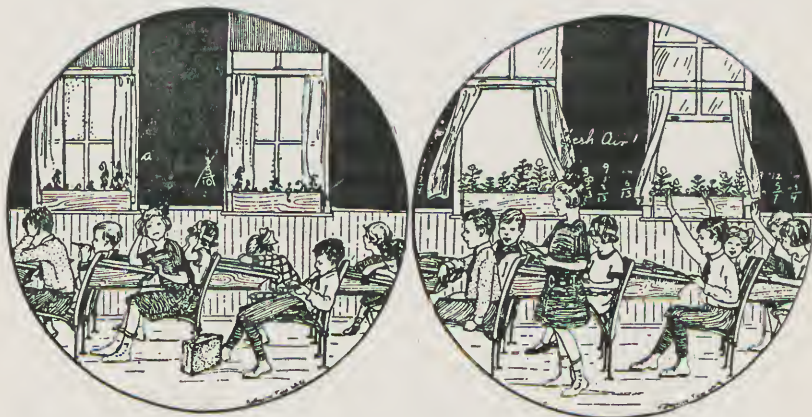
### **Disposal of Dust and Dirt**

54.6 per cent of the schools were found to have special janitor service. In the others the teacher acted as janitor. The dusty, germ-scattering, broom method of sweeping is still in 46.5 per cent of the schools. 30.4 per cent sprinkle the floor before sweeping, the others using some other dust gathering material, such as damp saw dust. 10.3 per cent of the floors were kept oiled. 10.7 per cent of the schools still use the unsanitary feather duster, all the others using the damp or oiled cloth to remove dust from the furniture. It should be remembered that the dust and dirt found on the schoolroom floor are filled with millions of bacteria, many of which are capable of producing disease in the little bodies whose vital resistance is rendered low by the unsanitary environment of school and home.

### **Infectious Diseases**

Infectious diseases were reported in 319 schools. Sixty-five schools reported chicken pox; 91 whooping cough; 28 measles; 12 scarlet fever; 118 influenza or la grippe; 10 diphtheria; 9 small pox; 46 mumps; and 45 other forms of contagious or infectious

diseases. 84.6 per cent of the schoolrooms were not disinfected last year. More than 99 per cent of the schools do not provide window screens for their windows. The great danger in this connection is that teachers do not, in a majority of cases, recognize the beginning or initial symptoms of the infectious diseases, and, consequently, the children are often exposed to infection before the case is diagnosed or the child isolated. It is important that teachers and parents make a study of the symptoms of the more



Wanted—More fresh air in the Schoolroom.

Wanted—More Missouri Schools like this.

FIG. 15.—BEFORE AND AFTER TAKING FRESH AIR. (Courtesy of the North Carolina Board of Health.)

common diseases, especially in their earliest stages, in order that well children may be protected against infection. In order to do this, it will be necessary to note every case of catarrhal condition such as running nose, cough, or an apparent beginning of a cold, and keep the child from school and from other children until it is certain that there is no danger of spreading infection. Such diseases as measles and scarlet fever are almost identical in their beginning with an ordinary cold and are infectious from the beginning of the catarrhal stage. It must be evident, therefore, that, if we are to succeed in preventing the spread of disease, we must be strict in isolation and quarantine measures. With windows not screened, and toilets open to flies, it is easy to see that we are constantly subjecting our children to the danger of infection from this source. Flies breed in such places, and feed

there, and, of course, carry the germs of disease from those places of filth to the food, hands, pencils and other utensils handled by the children. Many children suffer from diarrhoea, and other intestinal disturbances from this cause. Typhoid fever is often contracted in this manner.



FIG. 16.—A SOURCE OF POLLUTION OF SOIL, WATER AND MORALS. (Courtesy of the U. S. Public Health Service.)

### **Disposal of Sewage**

7.6 per cent of the schools have only one toilet; 91.8 per cent have two; while .6 per cent have none. Practically 100 per cent of the toilets are not protected against flies. 14.8 per cent are made with deep excavations, while 85.2 per cent have no excavations. 2.5 per cent of the schools have toilets with water-tight

receptacles, thus preventing the pollution of the soil and the ground water. In 41.4 per cent of the cases the back of the toilet is animal proof, while in 58.6 per cent of the cases, the conditions shown in Fig. 16 are, to a greater or less degree, found. The toilets are reported to be kept clean in 38.6 per cent of the cases.



FIG. 17.—AN INEXPENSIVE SANITARY TOILET. (Courtesy of U. S. Bureau of Education.)

Many schools have not realized that they are maintaining such a nuisance as the one shown in Fig. 16. There is no longer any reasonable excuse for any school board maintaining such a plague spot as this. What we need most, in this connection, is to know how to provide something better at reasonable cost. The Missouri school board is almost always found ready and willing to do anything in reason for the health and welfare of the children of the community. It is earnestly hoped that every school board



in this state will make special study of the sketches shown in Figs. 16, 17, 18, 19, 20 and 21 and will plan to dispose of the unsanitary toilet within the next year.

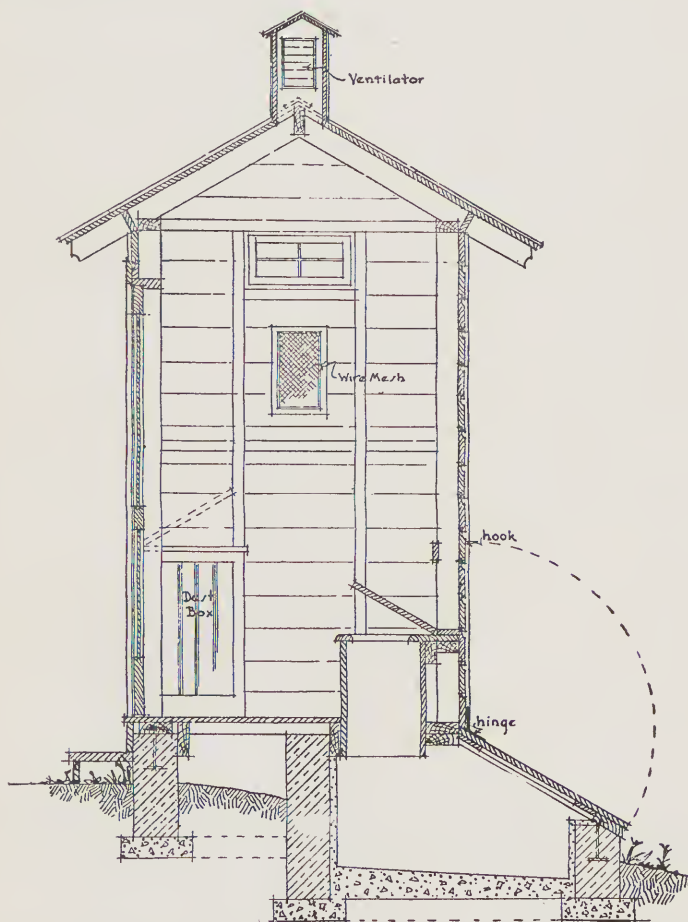


FIG. 18.—A SIDE VIEW OF THE TOILET SHOWN IN FIG. 17. (Courtesy of the U. S. Bureau of Education.)

Fig. 20 shows a toilet embodying the principles of the septic tank. In this case the air is excluded from the second and third compartments of the concrete tank, and the anærobic bacteria there will destroy the solids, as well as the disease germs in the





sewage. If properly installed, and cared for, this makes a most satisfactory installation. The effluent may be allowed to discharge into a nearby stream, or it may be led out thru 4 inch agricultural drain tile embedded in gravel to be absorbed into the soil. Whichever of these plans is employed, the expense will be found almost negligible as compared with the benefits to be derived from it.

A noted sanitarian has said: "The essence of sanitation is to

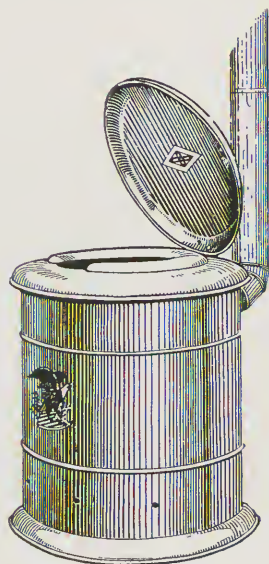


FIG. 21.—A CHEMICAL TOILET, CONVENIENT AND SANITARY. (Rowe Sanitary Mfg. Co., Detroit, Mich.)

secure perfect health, to increase the inherent power to resist noxious and harmful influences, and to make all the surroundings and environments of the body pure and free from depressing factors." This should be one of the uppermost ideas in modern educational practice. We must come to accept the truth of the statement that "It is just as much within the legitimate field of education to see that the child's blood is filled with four and a half million red corpuscles per cubic millimeter, with all their oxygen-carrying hemoglobin, as instruction in the three R's." There is absolutely nothing more fundamental in modern educational

practice than the proper care of the health of the child. As the Rev. Dr. Hillis has said "Nature has a record of all men's deeds, keeping her accounts on fleshly tablets. The mind may forget, the body never. The brain sees to it that the thoughts within do immediately dispose of facial tissue without. Mental brightness gives facial illumination. The right act or true thought sets its stamp of beauty in the features; the wrong act or foul thought sets its seal of distortion. Moral sweetness and purity refine and beautify the countenance. The body is a show window, advertising



FIG. 22.—A NORTHEAST MISSOURI CONSOLIDATED SCHOOL INCLUDING HIGH SCHOOL.

and exhibiting the soul's stock of goods." Let us put forth our utmost endeavors to give that "show window" a chance to be all that God intended it should be.

It is not expected that the results attained in this study are absolutely conclusive. It is felt, however, that the facts shown herein have some food for thought on the part of all who are interested in the betterment of rural life conditions. It is hoped that teachers, school boards and others will take the suggestions and criticisms given herein in the spirit in which they are given,

and will give them thoughtful and careful consideration. It is desired that any teacher or school board member in this section of Missouri who might desire further information or advice along any of the lines covered in this study should feel free to communicate with any member of the faculty of the Kirksville State Normal School, and the question will be answered by the one best qualified to answer it. It is hoped that this Normal School may have the privilege of cooperating with the rural communities in many ways to bring to every school in the district the very best thought of the day pertaining to the operation and management of



FIG. 23.—TRANSPORTATION OF CHILDREN TO AND FROM SCHOOL SHOWN IN FIG. 22. Why not give every country boy and girl a chance like this?

the rural schools. It is realized that many of the defects pointed out herein can never be fully remedied until every child in Missouri is within reach of such opportunities as are shown in Figs. 22 and 23. The consolidated school with transportation of the children to and from school is the only logical solution to most of the serious difficulties found in the present-day rural school. Such a plant as the one shown in Fig. 22 is within the reach of every child in the state if the school patrons will only put every shoulder to the wheel and boost.

### Conclusion

We need new public health laws. We need public health and personal hygiene instruction in every school in Missouri.

We need to give more liberal support to the various public health agencies in the state, the State Board of Health in particular. We need to get more information concerning the Anti-tuberculosis Society of Missouri and its great work. We need to have a school physician for our schools as other states have for theirs. We need to have a state school architect whose duty would be to make or approve the plans for all school buildings and outbuildings hereafter constructed. All of these things can come to us in a very limited way, except by way of a new state constitution. We must ever keep in mind that "Youth is the time for giving health, not for losing it; for building up sound bodies and constitutions, not for breaking them down, and school-life should always have the former as one of its greatest ends."

—WILLIS J. BRAY.

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## Healthgrams

Joy, Temperance, and Repose  
 Slam the door on the doctor's nose.

Anything done for health usually becomes valuable only as it becomes more or less automatic. That is why the habit of sleeping with windows open is so important. It should be just that—a habit; not something that requires remembering at night. Opening the bedroom window should be as automatic as winding one's watch before going to bed. Then the sleeper is always sure of a good supply of pure air during at least a third of his life.



# Health and his Enemies

## A Play in One Scene

By DR. MURRAY STONE,  
Springfield, Mo.

EDITOR'S NOTE: Those interested in health playlets will find "The Imps and the Children" published in Vol. VI, No. 4 of this magazine. Copies may be obtained on request.

### CAST OF CHARACTERS

MR. HEALTH, dressed in business suit.

MRS. HEALTH, his wife, dressed in outdoor sleeping-garments.

GNOMES:

FOUL AIR BOY, muffled.

BOY OF DARKNESS { Costumes of dull colors, indicating  
GERM BOY { various characteristics.

FAIRIES:

FAIRY AIRY, light, frilly garments, carrying palms.

LITTLE SUNBEAM, yellow garments, carrying big flash-light or lantern.

SCENE: Living-room with writing-table, couch, and chair. Windows should be closed. Mr. Health writing at table. Mrs. Health tidying room nervously.

TIME: Night.

MR. HEALTH (irritably)—My dear, I wish you would sit down.

MRS. HEALTH—Don't you know, my dear, that it is very late? Come, stop now, and get some sleep. You must be tired.

MR. HEALTH (more irritably)—Just run along and let me alone. I must get this work done.

MRS. HEALTH (resignedly)—Well, I suppose I must. Let me tell you, though, Mr. Health, you cannot always burn the candle at both ends. It never pays.

MR. HEALTH—Oh, go on with your preaching!

MRS. HEALTH (indignantly)—It's good advice, sir. You should sleep on the porch, as I do. You should retire earlier, too. Good night!

MR. HEALTH (writing steadily)—Good night! (Writes on for a time. Lays down pen after a while and peruses written sheets.) Ah! Just right! Now I'll sleep. (Rises. Extinguishes light. Leaves windows closed. Lies on couch. Sleeps.)

(Boy of Darkness appears; looks about; tiptoes about, beckoning.)

BOY OF DARKNESS—Come on! Come on! Mr. Health is sleeping! Come on, Boys!

FOUL AIR BOY (peeping out from behind couch)—Say, Boy of Darkness, is the window shut?

BOY OF D.—You bet! He got mad 'cause the Fairy Airy blew his papers around one day, and he never has had the window open since. Come on, Foul Air Boy.

F. A. BOY—All right! (Hops into room.) What a lark! (Fans air with bellows.

BOY OF D. (choking and covering nose)—Phew! What's that?

F. A. BOY—Ha! Ha! That's the foul air I brought Mr. Health to breathe!

GERM BOY (crawling out from under couch)—Hi yi! Everybody here?

F. A. BOY and BOY OF D.—Hello, hello, you Germ Boy!

G. BOY—Gee! I thought Little Sunbeam was in here. I had to run for my life!

BOY OF D.—Well, let's get busy. What you got in that sack, Germ Boy? (pointing to paper sack in G. Boy's hand.)

G. BOY—A bunch of tuberculosis germs.

ALL TOGETHER—Oh, let's see? (All peep in.)

F. A. BOY—They look like little straight sticks!

G. BOY—Sure, tuberculosis germs all look that way. (Holds case up.)

BOY OF D.—Where'd you get 'em?

G. BOY—Oh, you can pick 'em up off the sidewalks or on the floor, or anywhere that men happen to spit, you know.

F. A. BOY—What they for?

G. BOY—Just help me put 'em all over Mr. Health's lips and fingers. They'll fix him!

All busy at various distinctive tasks.

F. A. BOY—I'll blow some up his nose with my bellows.

G. BOY—That's the idea!

(All join hands and dance about, laughing and shouting. While they are doing this it is gradually growing lighter, indicating daybreak.)

BOY OF D.—'Sh! 'Sh! Mr. Health is waking! Hide away, quick!

(All scamper to cover.)

MR. HEALTH (stretching)—Oh, hum! (Sits up on couch.) I feel mighty bad!

(Enter Mrs. Health, still in sleeping-porch garments.)

MRS. HEALTH—My, I had a fine night's sleep on that porch! You look ill, my dear. (Looks about, disapprovingly.) Closed windows! Foul air! Germs! (Shakes head sadly. Goes out.)

Mr. Health rises, stumblingly.

G. BOY (peeking out)—Ha! ha! ha!

F. A. BOY (peeking out)—We fixed him!

BOY OF D. (peeking out)—He! he! he! Ha! ha!

(Mr. Health goes to window, leans heavily on sill. A tapping on pane. Gnomes duck out of sight. Mr. Health raises shade on window.)

LITTLE SUNBEAM (dancing into room)—Oh, what a miserable place! The Boy of Darkness must be here. (Runs about flashing light into corners.)

BOY OF D. (running from hiding-place, shielding eyes)—Mercy! Little Sunbeam! Have mercy!

LITTLE SUNBEAM (flashing light in face of Darkness)—Get out, you enemy of health!

(Boy of Darkness slinks blindly through door.)

LITTLE SUNBEAM (dancing about, flashing light gaily. Stops, startled)—Hark! What's that? (Flashing light on Foul Air Boy.) Come here, you skulking mate of Darkness!

F. A. BOY (skulking low)—Oh, Little Sunbeam, pray spare me! (Falls on floor.)

LITTLE SUNBEAM—I know how to be rid of thee, bad boy! (Flashes light over Mr. Health at window.)

MR. HEALTH (rousing himself)—That Sunshine feels good. I had nearly forgotten about Little Sunbeam.

LITTLE SUNBEAM (trying to raise window)—

MR. HEALTH—It is growing warmer. I'll raise the sash! (Raises window.) Ah! (Breathes deeply.) Ah!

(Fairy Airy bounds into room in breezy fashion.)

LITTLE SUNBEAM (embracing Fairy Airy)—Look, Fairy Airy, Foul Air Boy lies yonder. Let us put him out. (They drag him through door.)

MR. HEALTH (breathing deeply)—Ah! Ah!

FAIRY AIRY—Mr. Health looks ill (waving palms over Mr. Health.)

LITTLE SUNBEAM—Yes, the Boy of Darkness and the Foul Air Boy were here together.

FAIRY AIRY—The little Germ Boy must be here, too; he always goes around with that Foul Air Boy. Let's hunt about!

(They run about the room, Fairy Airy waving her palms wildly, Sunbeam flashing light furiously.)

Germ Boy crawls feebly from hiding place. Fairies jump back in fright.)

G. BOY (haltingly)—Is Darkness gone?

LITTLE SUNBEAM—Yes, indeed!

G. BOY (groaning)—And Foul Air, too?

FAIRY AIRY (emphatically)—Indeed he has!

G. BOY—Alone I die! (Falls dead.) (Fairies rush to body and roll it aside.)

MR. HEALTH—Ah! Ah! (breathing deeply, straightening up) How much better I feel.

(Fairies run to Mr. Health, seizing him and whirling him around room.)

MR. HEALTH (stumbling over Germ Boy's body)—Why, what is this?

FAIRIES—That is the Germ Boy, but he is dead. He cannot hurt you now.

(Mr. Health puts body out door.)

Enter Mrs. Health, dressed in house-gown.)

MRS. HEALTH—You look better, Mr. Health. Ah, I see you are entertaining Fairy Airy and Little Sunbeam this morning!

MR. HEALTH—I had a miserable night, but I am feeling quite like myself since Little Sunbeam and Fairy Airy came in.

MRS. HEALTH—Fairy Airy was fluttering about the sleeping-porch all night, and Little Sunbeam kissed me "good morning" at daybreak.



MR. HEALTH—In that case, my dear, I shall try the sleeping-porch to-night.

(All join hands and sing, tune of "America:")

The purest air is free,  
The sunshine given to thee,  
From morn 'til eve.  
And when the sun is gone  
The pure air lingers on.  
Oh, take it, every one,  
Take it and live!

(Exhibit this stanza on programs, blackboard, or screen.)

## THE BUREAU OF EDUCATION LETTER

### Opportunities for History Teachers

HOW the lessons of the great war may be taught in the school room is told in Teachers' Leaflet No. 1, on "Opportunities for History Teachers," just issued by the United States Bureau of Education of the Department of the Interior, for distribution to teachers of history throughout the United States.

That the American teacher of history is this year planning his work under conditions at once perplexing and inspiring, is the Bureau's statement in announcing the new work. In its appeal to teachers the Bureau says:

"The Nation has finally been drawn into a great war, a war which demands for its successful prosecution not only efficient and courageous service in the Army and Navy, but also the loyal cooperation of millions of men and women who are not enrolled in the fighting forces nor directly responsible for the civil administration on which those forces depend.

"First of all comes the duty of keeping, for teacher and pupil, the habit of at least trying to see things as they really were and

are. This is not easy at any time. It is peculiarly difficult at such a time as this, when too many people believe a slight distortion of facts may be a patriotic duty. In the long run loyalty to the country as well as loyalty to history are best served by looking facts squarely in the face.

"The training of young people and of the parents through the pupils to take an intelligent part in the decision of public questions is important enough at any time, but it is peculiarly so in this war whose meaning for the individual citizen is not so easily brought home. In 1823 and 1827, when the Monroe Doctrine was under discussion, Daniel Webster referred to the people who thought that Americans had no interest in the European system of mutual insurance for hereditary rulers against popular movements. What, they said, have we to do with Europe? The thunder, it may be said, rolls at a distance. The wide Atlantic rolls between us and danger; and, however others may suffer, we shall remain safe. Webster's answer to this question was strikingly similar to some of the utterances of President Wilson 'I think it is a sufficient answer to this to say, that we are one of the nations of the earth. . . . We have as clear an interest in international law as individuals have in the laws of society.' That was said long before the steamship, the submarine, and the wireless had broken down still further our 'splendid isolation.' Today we are fighting for our own rights, but over and above those special rights of our own we are fighting for international law itself, without which no nation can be safe, least of all those democratic governments which are less effectively organized for war than for peace.

"No one can take an intelligent part in a great conflict for the safety of democracy under an orderly system of international law unless he is really interested in and knows something about other nations than his own—about the difference between a republican government like our own or that of France or the scarcely less democratic constitution of Great Britain on the one side, and, in sharp contrast to all of these, a strongly monarchical system like that of the German Empire, in which the most important measures affecting the national welfare may be practically determined by a single hereditary sovereign or a small group of such sovereigns."

## THE BOOK SHELF

AS in previous issues of the MESSENGER usually three types of books will be noticed in these pages: Books of general cultural value; those of a pedagogical trend for the teacher; and books suitable for children and school libraries. Here is one for the teacher, or for anyone who wants to know what is vital and moving in education. Let Dr. John Dewey tell about the book:

"Angelo Patri has produced in his 'Schoolmaster of the Great City' an almost unheard of thing, a book on education which is not only sound in principle but charming in style. If anybody wants to know what is vital and moving in modern education, and wants the knowledge communicated in a form free from pedagogical phraseology, in human terms, let him read Mr. Patri's book. No parent or citizen can read the book without illumination and increased vision. The teacher who can read it without a gain in enthusiasm oughtn't to be teaching." The writer has enjoyed the book; he agrees with Dr. Dewey.

A Schoolmaster of the Great City, by Angelo Patri. Published by the Macmillan Company, New York. Price, \$1.25.

In these days of conservation and of high prices, initiative in home industries should be encouraged. The Lippincott Company are issuing a set of home manuals. One of these is on the selection, design, and construction of clothing for women. It includes problems embracing the fundamental principles involved in the selection and design of clothing; the theory and use of color; pattern-making and clothing construction. The book is a beautifully illustrated with 7 color plates, and 262 illustrations in black and white. Every woman who wishes to be tastefully dressed would be interested in this book.

Clothing for Women is by Laura I. Baldt. Published by the J. B. Lippincott Company, Philadelphia. Price, \$2.

The power of music is well nigh universal. Like Lorenzo most of us like to "let the sounds of music creep into our ears." But all cannot hear some things in music; for some Lorenzo's explanation is true:

"But whilst this muddy vesture of decay  
Doth grossly close it in, we cannot hear it."

For all who would hear better there is a book. It is the basis for a laboratory course of study in music history and appreciation. Part I deals with the principles of music; Part II with the history of music; Part III takes up the orchestra and the development of instrumental music; and Part IV is of the opera and oratorio. The person who uses this book and uses the phonograph disc for his laboratory material, if he have but latent power for appreciation, while he may not develop into a performing musician, is sure to become an intelligent appreciative music lover, knowing the world's music just as he may know its history, prose, poetry, and art.

*What We Hear in Music* by Anne Shaw Faulkner. It is published by the Educational Department of the Victor Talking Machine Company, Camden, New Jersey. The price is \$1. A free copy can be obtained of another book, "The Victrola in Rural Schools."

#### **For the Children:**

Perhaps the most popular writer on geographical subjects is Frank G. Carpenter. His new book will be a boon to teachers of "home geography," the kind that precedes the formal book study of the subject. "Around the World with the Children" is very readable either in the hands of the teacher or those of the pupils. It is beautifully illustrated with full page color plates, and many smaller ones in black and white. The pupil first studies his own home, where he finds his chief wants are food, clothing and shelter. He then goes to visit his little brothers and sisters in other parts of the world. He sees their homes, and learns how their wants are supplied.

*Around the World with the Children*, by Frank G. Carpenter. American Book Company, Chicago. The price is 60 cents.

"Don't be a goop!" Here are 254 notorious characters each with his funny picture and funny rhyme ready to make a naughty child laugh and stop. Just the names of Mary Cary Call of bawling fame, of Maxwell Mears who washes only the front of his face, and Jane Evans who guggs and bubbles in her glass are enough! And children are like grownups—they would rather be laughed out of doing things than be scolded. This is the best book for teaching good manners and minor morals to children that the writer has seen.

*The Goop Encyclopedia* is by Gelett Burgess. Published by the Frederick A. Stokes Company, New York. Price \$1.25.